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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/489,194	01/20/2000	Anthony Mauro	990228	5537

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Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
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EXAMINER	
SONG, HOSUK	

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/489,194	MAURO, ANTHONY	
	Examiner	Art Unit	
	Hosuk Song	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8,10,11,15,18,20,22-24,26,27,29-31,33,34,37,39 and 40* is/are rejected.

7)☒ Claim(s) *6,7,9,12,16,17,19,21,25,28,32,35,36 and 38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Please note that the application has been docketed to a different examiner. Please refer all future communications regarding this application to the examiner of record,using the information supplied in the final section of the office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1,10,13,20,22,29,30,39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szczutkowski et al(US 4,817,146) in view of Wildfeuer(US 6,298,055).

Claim 1: Szczutkowski disclose generating data frames at a predetermined rate in a transmitter in (col.5,lines 35-40). Szczutkowski disclose incrementing a state vector at a predetermined rate in (col.24,lines 19-26). Providing state vector to an encryption module in (col.5,lines 35-40). Generating a codebook from encryption module using at least state vector,codebook for encrypting at least one of data frames in (col.5,lines 35-40). Szczutkowski does not specifically disclose detecting a delay in transmitting data frames;dropping one or more of frames and disabling state vector from incrementing for each of data frames being dropped. Wildfeuer disclose this limitation in (fig.10 and col.3,lines 4-14;col.4,lines 27-30). It would have been obvious to person of ordinary skill in the art at the time invention was made to detecting a delay in transmitting data frames and disabling state vector from incrementing for each of data frames being dropped as taught in Wildfeuer with packet data system of Szczutkowski in order to prevent data congestion and enhance speed and data quality.

Claims 10,20: Szcztkowski disclose receiving data frames at a receiver in (col.7,lines 24-30). Storing data frames in sequence in a queue in (col.7,lines 24-30). Providing stored data frames in sequence to a decryption module in (col.7,lines 24-30). Incrementing state vector at a predetermined rate in (col.22,lines 21-23). Providing state vector to a decryption module in (col.22,lines 27-31). Generating a codebook from decryption module,using at least state vector,codebook for decrypting at least one of data frames in (col.5,lines 35-40;col.24,lines 9-17). The codebook/unique code is represented by the secret key in (col.5,lines 35-40). Szcztkowski does not specifically disclose detecting the data frames in the queue exceeds a limit;dropping one or more data frames in queue and adjusting state vector for each of one or more data frames that are dropped. Wildfeuer disclose this limitation in (fig.10 and col.3,lines 4-14;col.4,lines 27-30). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Wildfeuer within the system of Szczutkowski and Wildfeuer for increased bandwidth on the channel thus preventing bottlenecks and enhances speed of data delivery to recipient in a timely manner.

Claim 13: Szcztkowski disclose applying adjusted state vector to decryption module in (col.24,lines 9-17). Generating a second codebook derived from adjusted state vector in (col.5,lines 35-40). Providing a sequential non-dropped frame in queue to decryption module in (col.7,lines 24-30). Decrypting sequential non-dropped frame using second Codebook in (col.7,lines 24-30).

Claim 22: Szcztkowski disclose generating a data frames at a predetermined rate and generating a state vector,incremented at predetermined rate in (col.5,lines 35-40,col.24,lines 19-22). Encryption module adapted to generate a codebook from at least state vector,codebook for encrypting at least one of data frames in (col.5,lines 35-40). Szczutkowski does not specifically disclose adapting to detect a delay in transmitting data frames,to drop one or more

of data frames and disable state vector for each of data frames that are dropped. Wildfeuer disclose this limitation in (fig.10 and col.3,lines 4-14;col.4,lines 27-30). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine teachings of Wildfeuer with system of Szcztkowski in order to increase bandwidth on the channel and prevent bottlenecks thus enhancing speed and quality of data delivery.

Claim 29: Szcztkowski disclose receiving a wireless communication signal in (col.7,loines 14-24). Demodulator for demodulating wireless communication signal and producing data frames in (col.2,lines 40-46,abstract).

Claims 30,39: Szcztkowski disclose receiving data frames in (col.7,lines 24-30). Queue for storing data frames in (col.7,lines 24-30). Generating a state vector incremented at a predetermined rate (col.22,lines 21-31). Decryption module for generating a codebook from at least state vector,codebook for decrypting at least one of data frames in (col.5,lines 35-40,col.22,lines 21-31,col.24,lines 9-17) . Szcztkowski does not specifically disclose detecting a delay in decryption of data frames and adjusting state vector for each of data frames that are dropped. Wildfeuer disclose this limitation in (fig.10 and col.3,lines 4-14;col.4,lines 27-30). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine teachings of Wildfeuer with system of Szcztkowski in order to increase bandwidth on the channel and prevent bottlenecks thus enhancing speed and quality of data delivery.

Claim 40: Szcztkowski disclose state vector is enabled at least one data frame becomes available for encryption in queue in (col.22,lines 38-43).

3. Claims 2-5,8,11,14-15,18,23-24,26-27,31,33-34,37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szczutkowski et al(US 4,817,146) in view of Wildfeuer(US 6,298,055) and further in view of Stevens(TCP/IP Illustrated,Volume 1).

Claim 2: Szcztkowski and Wildfeuer does not specifically disclose state vector is enabled after a desired number of data frames have been dropped. Stevens disclose this limitation in (page 310). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer in order to minimize or prevent data congestion.

Claim 3: Szcztkowski disclose converting information;providing digitized information to a vocoder and generating data frames by vocoder at predetermined rate in (col.1,lines 5-15;col.2,lines 40-46;col.3,lines 64-68).

Claim 4: Neither Szcztkowski nor Wildfeuer specifically disclose dropping one or more data frames comprises data frames at a fixed predetermined rate. Stevens disclose this limitation in (page 310). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer in order to decrease latency on the communication channel and free up bandwidth on the channel.

Claim 5: Neither Szcztkowski nor Wildfeuer specifically disclose determining a communication channel latency and dropping data frames at a variable rate in accordance with communication channel latency. Stevens disclose this limitation in (page 286). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer for bandwidth stability on the channel and bottleneck prevention.

Claim 8: Neither Szcztkowski nor Wildfeuer specifically disclose determining a communication channel latency and dropping each of the frames having an encoded rate equal to a first encoding rate if communication channel latency exceeds a predetermined threshold. Stevens disclose this limitation in (page 310,paragraph 3,8). It would have been obvious to

person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer for increased bandwidth on the channel thus preventing bottlenecks and enhances speed of data delivery to recipient in a timely manner.

Claims 11,31: Neither Szcztkowski nor Wildfeuer specifically disclose determining a number of dropped data frames and advancing state vector in proportion to number of dropped frames. Stevens disclose this limitation in (page 310,paragraphs 8-11,page 311,paragraph 1,last sentence). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer for increased bandwidth on the channel thus preventing bottlenecks.

Claim 33: Neither Szcztkowski nor Wildfeuer specifically disclose wherein processor drops one or more data frames at a fixed rate. Stevens disclose this limitation in (page 310). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer in order to decrease latency on the communication channel and free up bandwidth on the channel.

Claim 14: Neither Szcztkowski nor Wildfeuer specifically disclose dropping one or more data frames at a fixed rate. Stevens disclose this limitation in (page 310). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine teachings of Stevens with system of Szczutkowski in order to decrease latency on the communication channel and free up bandwidth on the channel.

Claim 15: Neither Szczutkowski nor Wildfeuer specifically disclose determining a communication channel latency and dropping data frames at a variable rate in accordance with communication channel latency. Stevens disclose this limitation in (page 286). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the

teachings of Stevens within the system of Szczutkowski and Wildfeuer for badwidth stability on the channel and bottleneck prevention.

Claim 18: Neither Szcztkowski nor Wildfeuer specifically disclose determining a communication channel latency and dropping each of the frames having an encoded rate equal to a first encoding rate if communication channel latency exceeds a predetermined threshold. Stevens disclose this limitation in (page 310,paragraph 3,8). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer for increased bandwidth on the channel thus preventing bottlenecks and enhances speed of data delivery to recipient in a timely manner.

Claim 23: Neither Szcztkowski nor Wildfeuer specifically disclose frames are dropped at a fixed,predetermined rate. Stevens disclose this limitation in (page 310). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer for increased bandwidth on the channel thus preventing bottlenecks and enhances speed of data delivery to recipient in a timely manner.

Claim 24: Neither Szcztkowski nor Wildfeuer specifically disclose data frames are dropped at a variable rate. Stevens disclose this limitation in (page 286, second paragraph). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer because varying the rate of dropping of the data frames leads to a more steady availability of bandwidth on the channel and bottleneck prevention.

Claims 26,27: Neither Szcztkowski nor Wildfeuer specifically disclose determining a communication channel latency and dropping each of the frames having an encoded rate equal

to a first encoding rate if communication channel latency exceeds a predetermined threshold. Stevens disclose this limitation in (page 310,paragraph 3,8). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer for increased bandwidth on the channel thus preventing bottlenecks and enhances speed of data delivery to recipient in a timely manner.

Claim 34: Neither Szcztkowski nor Wildfeuer specifically disclose determining a communication channel latency and dropping data frames at a variable rate in accordance with communication channel latency. Stevens disclose this limitation in (page 286). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer for bandwidth stability on the channel and bottleneck prevention.

Claim 37: Neither Szcztkowski nor Wildfeuer specifically disclose determining a communication channel latency and dropping each of the frames having an encoded rate equal to a first encoding rate if communication channel latency exceeds a predetermined threshold. Stevens disclose this limitation in (page 310,paragraph 3,8). It would have been obvious to person of ordinary skill in the art at the time invention was made to combine the teachings of Stevens within the system of Szczutkowski and Wildfeuer for increased bandwidth on the channel thus preventing bottlenecks and enhances speed of data delivery to recipient in a timely manner.

Claim Objections

4. Claim 1 remain objected because of the following informalities: Misspelling of synchronization. Appropriate correction n is required to the spelling in all occurrences of this word in other existing claims.

Allowable Subject Matter

5. Claims 6,7,9,12,16,17,19,21,25,28,32,35,36,38 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment

6. Claims 1-40 are pending. Previous grounds of rejections are withdrawn in view of Applicant's Amendment filed on 1/7/2005. However, newly discovered prior art has necessitated new grounds of rejection. New grounds of rejections are presented above.

USPTO Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hosuk Song whose telephone number is 571-272-3857. The examiner can normally be reached on Tue-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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